

IN THE CLAIMS:

Please re-write the claims to read as follows:

- 1 1. (Original) A layer 2 switch, comprising:
 - 2 a plurality of ports, at least one port of said plurality of ports capable of being set
 - 3 to a status of uplinkguard enabled (UG status);
 - 4 first circuits for running the spanning tree protocol (STP) in said layer 2 switch,
 - 5 said STP capable of selecting said at least one port as either a designated port or as a root
 - 6 port;
 - 7 second circuits for running uplinkguard enabled process, and said uplinkguard
 - 8 enabled process determining whether or not a port set to UG status has been selected by
 - 9 STP as a designated port; and,
 - 10 blocking circuits to set said at least one port into blocked state, said blocking cir-
 - 11 cuits setting said at least one port into blocked state in response to said at least one port
 - 12 being both in uplinkguard enabled status and selected by STP as a designated port.
- 1 2. (Original) A layer 2 switch, comprising:
 - 2 a plurality of ports, at least one port of said plurality of ports capable of being set
 - 3 to a status of Uplinkguard enabled (UG status);

4 first circuits for maintaining said at least one port in blocked status, and for transi-
5 tioning said port into forwarding status;
6 second circuits for running Uplinkguard enabled process, and said Uplinkguard
7 enabled process determining whether or not a port set to UG status has been transitioned
8 to forwarding status; and,
9 blocking circuits to set said at least one port into blocked state, said blocking cir-
10 cuits setting said at least one port into blocked state in response to said at least one port
11 being both in UG enabled status and transitioned into forwarding status, and said at least
12 one port not being a root port when in forwarding status.

1 3. (Original) A method of managing a switch for use in a computer network, comprising:
2 providing a plurality of ports, at least one port of said plurality of ports capable of
3 being set to a status of uplinkguard enabled status (UG status);
4 setting said at least one port to UG status;
5 running a spanning tree protocol (STP) in said switch, said STP capable of select-
6 ing said at least one port as either a designated port or as a root port;
7 running uplinkguard enabled process, and said uplinkguard process determining
8 whether or not a port set to UG status has been selected by STP as a designated port; and,
9 setting said at least one port into blocked status, in response to said at least one
10 port being both in uplinkguard enabled status and selected by STP as a designated port.

1 4. (Original) A method of managing a switch for use in a computer network, comprising-
2 ing:

3 providing a plurality of ports, at least one port of said plurality of ports capable of
4 being set to a status of uplinkguard enabled (UG status);

5 setting said at least one port to UG status, said at least one port being in blocking
6 status;

7 transitioning said at least one port from blocking status to forwarding status;

8 determining whether or not said at least one port set to UG status has been transi-
9 tioned to forwarding status, and if said at least one port is not a root port; and

10 setting said at least one port into blocked state in response to said at least one port
11 being both in UG status and transitioned into forwarding status, and said at least one port
12 not being a root port.

1 5. (Original) A data structure stored in a memory of a computer network switch, said
2 data structure having entries, said entries having a "state" field and a "role" field, said
3 state field having the value of "blocked" or the value of "forwarding", comprising:

4 a first entry having the role field set to "root port" and the state field set to for-
5 warding;

6 a second entry having the role field set to "designated port" and the state field set
7 to forwarding;

8 a third entry having the role field set to "blocked port" and the state field set to
9 blocked; and,

10 a fourth entry having the role field set to “uplinkguard enabled” and the state field
11 set to blocked.

1 6. (Previously Presented) A computer readable memory device, comprising: said com-
2 puter readable memory device containing instructions for practice of the method of
3 managing a switch for use in a computer network, the method having,
4 providing a plurality of ports, at least one port of said plurality of ports capable of
5 being set to a status of uplinkguard enabled status (UG status);
6 setting said at least one port to UG status;
7 running a spanning tree protocol (STP) in said switch, said STP capable of select-
8 ing said at least one port as either a designated port or as a root port;
9 running uplinkguard enabled process, and said uplinkguard process determining
10 whether or not a port set to UG status has been selected by STP as a designated port; and,
11 setting said at least one port into blocked status, in response to said at least one
12 port being both in uplinkguard enabled status and selected by STP as a designated port.

1 7. (Previously Presented) Electromagnetic signals propagated over a computer network,
2 comprising: said electromagnetic signals having instructions for practice of the method of
3 managing a switch for use in a computer network, the method having,
4 providing a plurality of ports, at least one port of said plurality of ports capable of
5 being set to a status of uplinkguard enabled status (UG status);
6 setting said at least one port to UG status;

7 running a spanning tree protocol (STP) in said switch, said STP capable of select-
8 ing said at least one port as either a designated port or as a root port;
9 running uplinkguard enabled process, and said uplinkguard process determining
10 whether or not a port set to UG status has been selected by STP as a designated port; and,
11 setting said at least one port into blocked status, in response to said at least one
12 port being both in uplinkguard enabled status and selected by STP as a designated port.

1 8. (Previously Presented) The layer 2 switch of claim 1 further comprising:
2 said blocking circuits not setting said at least one port into a blocked status if said
3 at least one port is to be selected by STP as a root port.

1 9. (Previously Presented) The layer 2 switch of claim 1 further comprising:
2 said first circuits removing said at least one port from a list of ports examined by
3 STP if said port is in the blocked state and then rerunning STP.

1 10. (Previously Presented) The method of claim 3 further comprising:
2 not setting said at least one port into a blocked status if said at least one port is to
3 be selected by STP as a root port.

1 11. (Previously Presented) The method of claim 3 further comprising:
2 removing said at least one port from a list of ports examined by STP if said port is
3 in the blocked state and then rerunning STP.

1 12. (Currently Amended) A network switch, comprising:

2 a plurality of ports, at least one port of said plurality of ports having a status, said

3 status being set to a status of capable of transmitting to other switches lower higher in a

4 spanning tree protocol (hereinafter STP), OR being set to a status of NOT being able to

5 transmit to other switches lower higher in the STP (hereinafter referred to as uplink-

6 guard enabled status, or UG status);

7 first circuits for running the spanning tree protocol (STP) in said network switch,

8 said STP capable of selecting said at least one port as either a designated port or as a root

9 port;

10 second circuits for running an uplinkguard enabled process, and said uplinkguard

11 enabled process determining whether or not a port set to UG status has been selected by

12 STP as a designated port; and,

13 blocking circuits to set said at least one port into blocked state, said blocking cir-

14 cuits setting said at least one port into blocked state in response to said at least one port

15 being both in UG status and selected by STP as a designated port.

1 13. (Currently Amended) A ~~method of operating a~~ network switch, comprising:

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4 first circuits for maintaining said at least one port in blocked status, and for transi-

5 tioning said port into forwarding status;

6 second circuits for running Uplinkguard enabled process, and said Uplinkguard
7 enabled process determining whether or not a port set to UG status has been transitioned
8 to forwarding status; and,

9 blocking circuits to set said at least one port into blocked state, said blocking cir-
10 cuits setting said at least one port into blocked state in response to said at least one port
11 being both in UG enabled status and transitioned into forwarding status, and said at least
12 one port not being a root port when in forwarding status.

1 14. (Previously Presented) The switch as in claim 12, further comprising:

2 a memory;

3 a data structure stored in the memory, said data structure having entries, said en-
4 tries having a "state" field and a "role" field, said state field having the value of "blocked"
5 or the value of "forwarding";

6 a first entry having the role field set to "root port" and the state field set to for-
7 warding;

8 a second entry having the role field set to "designated port" and the state field set
9 to forwarding;

10 a third entry having the role field set to "blocked port" and the state field set to
11 blocked; and,

12 a fourth entry having the role field set to "uplinkguard enabled" and the state field
13 set to blocked.

- 1 15. (Previously Presented) The switch as in claim 12, further comprising:
 - 2 said blocking circuits not setting said at least one port into a blocked status if said
 - 3 at least one port is selected by STP as a root port.
- 1 16. (Previously Presented) The switch as in claim 12, further comprising:
 - 2 said first circuits removing said at least one port from a list of ports examined by
 - 3 STP if said port is in the blocked state and when running STP.
- 1 17. (Currently Amended) A method for operating a network switch, comprising:
 - 2 setting a status at for at least one port of a plurality of ports, said status being set
 - 3 to either a status of capable of transmitting to other switches lower ~~higher~~ in a spanning
 - 4 tree protocol (spanning tree protocol is hereinafter STP), OR being set to a status of NOT
 - 5 being able to transmit to other switches lower ~~higher~~ in the STP (hereinafter referred to
 - 6 as uplinkguard enabled status, or UG status);
 - 7 setting said at least one port to UG status;
 - 8 running the spanning tree protocol (STP) in said network switch, said STP capa-
 - 9 ble of selecting said at least one port as either a designated port or as a root port;
 - 10 running an uplinkguard enabled process, and said uplinkguard enabled process
 - 11 determining whether or not a port set to UG status has been selected by STP as a desig-
 - 12 nated port; and,
 - 13 setting said at least one port into blocked state in response to said at least one port
 - 14 being both in UG status and selected by STP as a designated port.

1 18. (Previously Presented) The method as in claim 17, further comprising:

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3 running Uplinkguard enabled process, and said Uplinkguard enabled process de-
4 terminating whether or not a port set to UG status has been transitioned to forwarding
5 status; and,

6 setting said at least one port into blocked state in response to said at least one port
7 being both in UG enabled status and transitioned into forwarding status, and said at least
8 one port not being a root port when in forwarding status.

1 19. (Previously Presented) The method as in claim 17, further comprising:

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3 storing a data structure stored in memory, said data structure having entries, said
4 entries having a "state" field and a "role" field, said state field having the value of
5 "blocked" or the value of "forwarding";

6 providing a first entry having the role field set to "root port" and the state field set
7 to forwarding;

8 providing a second entry having the role field set to "designated port" and the
9 state field set to forwarding;

10 providing a third entry having the role field set to "blocked port" and the state
11 field set to blocked; and,

12 providing a fourth entry having the role field set to "uplinkguard enabled" and the
13 state field set to blocked.

- 1 20. (Previously Presented) The method as in claim 17, further comprising:
 - 2 not setting said at least one port into a blocked status if said at least one port is
 - 3 selected by STP as a root port.
- 1 21. (Previously Presented) The method as in claim 17, further comprising:
 - 2 removing said at least one port from a list of ports examined by STP if said port is
 - 3 in the blocked state when running STP.
- 1 22. (Currently Amended) A network switch, comprising:
 - 2 means for setting a status at for at least one port of a plurality of ports, said status
 - 3 being set to either a status of capable of transmitting to other switches lower higher in a
 - 4 spanning tree protocol (spanning tree protocol is hereinafter STP), OR being set to a
 - 5 status of NOT being able to transmit to other switches lower higher in the STP (herein-
 - 6 after referred to as uplinkguard enabled status, or UG status);
 - 7 means for setting said at least one port to UG status;
 - 8 means for running the spanning tree protocol (STP) in said network switch, said
 - 9 STP capable of selecting said at least one port as either a designated port or as a root port;
 - 10 means for running an uplinkguard enabled process, and said uplinkguard enabled
 - 11 process determining whether or not a port set to UG status has been selected by STP as a
 - 12 designated port; and,
 - 13 means for setting said at least one port into blocked state in response to said at
 - 14 least one port being both in UG status and selected by STP as a designated port.

- 1 23. (Previously Presented) The network switch as in claim 22, further comprising:
 - 2
 - 3 means for running Uplinkguard enabled process, and said Uplinkguard enabled
 - 4 process determining whether or not a port set to UG status has been transitioned to for-
 - 5 warding status; and,
 - 6 means for setting said at least one port into blocked state in response to said at
 - 7 least one port being both in UG enabled status and transitioned into forwarding status,
 - 8 and said at least one port not being a root port when in forwarding status.
- 1 24. (Previously Presented) The network switch as in claim 22, further comprising:
 - 2 means for storing a data structure stored in memory, said data structure having en-
 - 3 tries, said entries having a "state" field and a "role" field, said state field having the value
 - 4 of "blocked" or the value of "forwarding";
 - 5 means for providing a first entry having the role field set to "root port" and the
 - 6 state field set to forwarding;
 - 7 means for providing a second entry having the role field set to "designated port"
 - 8 and the state field set to forwarding;
 - 9 means for providing a third entry having the role field set to "blocked port" and
 - 10 the state field set to blocked; and,
 - 11 means for providing a fourth entry having the role field set to "uplinkguard en-
 - 12 abled" and the state field set to blocked.
- 1 25. (Previously Presented) The network switch as in claim 22, further comprising:

2 means for not setting said at least one port into a blocked status if said at least one
3 port is selected by STP as a root port.

1 26. (Previously Presented) The network switch as in claim 22, further comprising:
2 means for removing said at least one port from a list of ports examined by STP if
3 said port is in the blocked state when running STP.

1 27. (Currently Amended) A computer readable media, comprising:
2 said computer readable media having instructions written thereon for execution on
3 a processor for the practice of the method having,
4 setting a status at for at least one port of a plurality of ports, said status being set
5 to either a status of capable of transmitting to other switches lower ~~higher~~ in a spanning
6 tree protocol (spanning tree protocol is hereinafter STP), OR being set to a status of NOT
7 being able to transmit to other switches lower ~~higher~~ in the STP (hereinafter referred to
8 as uplinkguard enabled status, or UG status);
9 setting said at least one port to UG status;
10 running the spanning tree protocol (STP) in said network switch, said STP capa-
11 ble of selecting said at least one port as either a designated port or as a root port;
12 running an uplinkguard enabled process, and said uplinkguard enabled process
13 determining whether or not a port set to UG status has been selected by STP as a desig-
14 nated port; and,
15 setting said at least one port into blocked state in response to said at least one port
16 being both in UG status and selected by STP as a designated port.

- 1 28. (Currently Amended) Electromagnetic signals propagating on a computer network,
- 2 comprising:
 - 3 said electromagnetic signals carrying instructions for execution on a processor for
 - 4 the practice of the method having,
 - 5 setting a status at for at least one port of a plurality of ports, said status being set
 - 6 to either a status of capable of transmitting to other switches lower ~~higher~~ in a spanning
 - 7 tree protocol (spanning tree protocol is hereinafter STP), OR being set to a status of NOT
 - 8 being able to transmit to other switches lower ~~higher~~ in the STP (hereinafter referred to
 - 9 as uplinkguard enabled status, or UG status);
 - 10 setting said at least one port to UG status;
 - 11 running the spanning tree protocol (STP) in said network switch, said STP capa-
 - 12 ble of selecting said at least one port as either a designated port or as a root port;
 - 13 running an uplinkguard enabled process, and said uplinkguard enabled process
 - 14 determining whether or not a port set to UG status has been selected by STP as a desig-
 - 15 nated port; and,
 - 16 setting said at least one port into blocked state in response to said at least one port
 - 17 being both in UG status and selected by STP as a designated port.

Please add new claims 29, *et seq.*, as follows:

- 1 29. (New) A method for operating a network switch, comprising:
 - 2 enabling a status of a selected port of the switch to upguard enabled status (hereinafter UG status), the UG status preventing the port from transmitting to a switch lower
 - 3 in a spanning tree established by executing a spanning tree protocol (hereinafter STP), the
 - 4 spanning tree protocol capable of selecting a root port to communicate to a switch upstream in the spanning tree and capable of selecting a designated port to communicate
 - 5 downstream to a switch lower in the spanning tree;
 - 6 executing the spanning tree protocol (STP), and the STP selecting the selected
 - 7 port as a designated port; and
 - 8 setting the selected port into blocked state in response to the at least one port being both in UG status and selected by STP as a designated port, the blocked state preventing the selected port from transmitting to a switch lower in the spanning tree.
- 10 30. (New) The method of claim 29 further comprising:
 - 2 removing the selected port from a list of ports examined by STP.
- 12 31. (New) A network switch, comprising:
 - 2 means for enabling a status of a selected port of the switch to upguard enabled
 - 3 status (hereinafter UG status), the UG status preventing the port from transmitting to a
 - 4 switch lower in a spanning tree established by executing a spanning tree protocol (herein-

5 after STP), the spanning tree protocol capable of selecting a root port to communicate to
6 a switch upstream in the spanning tree and capable of selecting a designated port to
7 communicate downstream to a switch lower in the spanning tree;
8 means for executing the spanning tree protocol (STP), and the STP selecting the
9 selected port as a designated port; and
10 means for setting the selected port into blocked state in response to the at least
11 one port being both in UG status and selected by STP as a designated port, the blocked
12 state preventing the selected port from transmitting to a switch lower in the spanning tree.

1 32. (New) The method of claim 31 further comprising:
2 means for removing the selected port from a list of ports examined by STP.

1 33. (New) A network switch, comprising:
2 a first circuit to enable a status of a selected port of the switch to upguard enabled
3 status (hereinafter UG status), the UG status preventing the port from transmitting to a
4 switch lower in a spanning tree established by executing a spanning tree protocol (herein-
5 after STP), the spanning tree protocol capable of selecting a root port to communicate to
6 a switch upstream in the spanning tree and capable of selecting a designated port to
7 communicate downstream to a switch lower in the spanning tree;
8 a second circuit to execute the spanning tree protocol (STP), and the STP select-
9 ing the selected port as a designated port; and

10 a third circuit to set the selected port into blocked state in response to the at least
11 one port being both in UG status and selected by STP as a designated port, the blocked
12 state preventing the selected port from transmitting to a switch lower in the spanning tree.

1 34. (New) The method of claim 33 further comprising:
2 the first circuit to remove the selected port from a list of ports examined by STP.